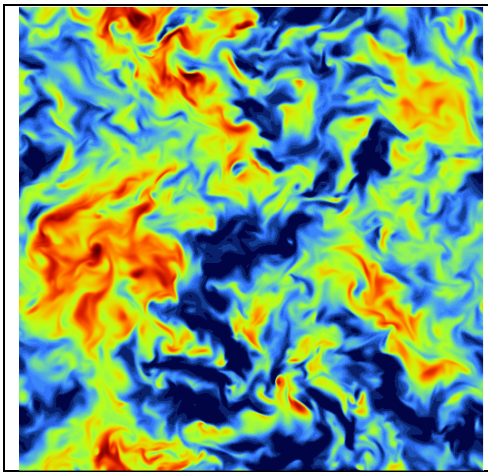

International Workshop

Turbulence cascades

– EUROMECH-ERCOFTAC –

02-04 December 2015, Lille,France

Laboratoire Mécanique Lille

Agenda

Wednesday December, 2nd

8h30 Registrations

9h00 -9h20 Welcome by coordinators and EC Lille

9h20 - 11h00 Session 1 -

Chairman :

9h20 Frédéric Moisy
FAST, University of Paris-Sud, France
Direct and inverse energy cascades in rotating turbulence

9h55 Luminita Danaila
CORIA, University of Rouen, France
Universality of small scale statistics in various turbulent flows

10h30 Rudie Kunnen
Technische Universiteit Eindhoven, The Netherlands
Cascades in buoyancy-driven turbulence

11h05 Felipe Alves-Portela
Department of Aeronautics - Imperial College London, UK
Study of turbulence cascade in a planar wake using two point statistics

11h30 – 11h50 Coffee break

11h50 - 12h40 Session 2 -

Chairman :

11h50 Thierry Lehner
Laboratoire Univers et Théories, Meudon, France
Turbulent Cascade as a dynamical process

12h15 Alberto Vela-Martin
Univ. Politecnica de Madrid, Spain
Dynamics of the direct and inverse cascades of perturbation velocity in isotropic turbulence

13h00 - 14h30 Lunch

14h30 - 15h55 Session 3 -

Chairman :

14h30 Joachim Peinke
Institute of Physics, University of Oldenburg, Germany
Entropy production as a criterion for cascade processes and rare events

15h05 François Schmitt
CNRS, Lab of Oceanology and Geosciences, Wimereux, France
Lagrangian Cascade in Three-Dimensional Homogeneous and Isotropic Turbulence

15h30 Petros Mouzourides
University of Cyprus, Nicosia, Cyprus
Exploring the manifestation of Kolmogorov's ideas in real atmospheric data

15h55 – 16h15 Coffee break

16h15 – 18h05 Session 4 -

Chairman :

16h15 Javier Jimenez
Universidad Politecnica de Madrid, Spain
The inertial eddies of wall-bounded turbulence

16h50 Adrian Lozano Duran
Universidad Politecnica de Madrid, Spain
Wall-attached cascade of eddies in turbulent channels

17h15 Antoine Briard
Pierre et Marie Curie University, Paris, France
Return to isotropy of homogeneous turbulence

17h40 Jonathan Morrison
Department of Aeronautics, Imperial College London, UK
The inertial subrange in turbulent pipe flow: Centre line

Thursday December, 3rd

8h30 - 10h40 Session 5 -

Chairman :

8h30 Hussein Aluie
University of Rochester, USA
Energy Cascade in Compressible Turbulence

9h05 Giorgio Krstulovic
CNRS, Observatoire de la Côte d'Azur, France.
Turbulent cascades in truncated Euler flows

9h40 Mikhael Gorokhovski
LMFA, Ecole Centrale de Lyon, France
The auto-similar kinetic phenomenology of turbulent cascade from renormalized fragmentation equation

10h05 Pierre Sagaut
M2P2, University of Aix-Marseille, France
Some results dealing with the turbulent energy cascade in isotropic turbulence

10h40 – 11h00 Coffee break

11h00 - 12h50 Session 6 -

Chairman :

11h00 Luca Biferale
University of Roma, Italy
Intermittency in Navier-Stokes equations under Fourier mode-reduction

11h35 Ephim Golbraikh
Ben-Gurion University of the Negev, Israel
Phenomenology and numerical simulations of highly helical isotropic turbulence

12h00 Julian Scott
LMFA, Ecole Centrale de Lyon, France
Turbulence cascades in a shearless rotating channel

12h25 Benoît-Joseph Gréa
CEA DAM, DIF, France
Self-similar regimes in Unstably Stratified Homogeneous Turbulence

12h50 - 14h00 Lunch at EC Lille

14h00 - 16h05 Session 7 -

Chairman :

14h00 Claude Cambon
LMFA, Ecole Centrale de Lyon, France
Cascades in 'weak' and 'strong' turbulence: an unified study.

14h35 Christophe Brouzet
École Normale Supérieure de Lyon, France
Energy cascade in internal wave attractors

15h00 Alexandre Delache
LMFA, Ecole Centrale de Lyon, France
Toroidal cascade and isotropy restored at small scales in freely decaying stratified turbulence

15h25 Sébastien Galtier
University of Paris-Sud, France.
Weak Wave Turbulence

16h00 Stephano Musacchio
CNRS, Univ. Nice Sophia Antipolis, France
Dimensional Transitions in Turbulence Cascades

16h25 – 16h45 Coffee break

16h45 - 17h45 Lecture on weak turbulence -

Chairman :

16h45 Christophe Josserand,
IJLRA, University of Pierre et Marie Curie, France.
Wave turbulence: the example of vibrating plates.

Dinner in central Lille 20h

Friday December, 4th

8h30 - 10h55 Session 9 -

Chairman :

8h30 Minh Nguyen
LMFA, Ecole Centrale de Lyon, France
A new cascade in far-dissipation range of homogeneous isotropic viscoelastic turbulence.

8h55 Kiyoshi Horiuti
Tokyo Institute of Technology, Japan.
Energy cascade and drag reduction in elasto-inertial turbulence diluted with contravariant and covariant polymers

9h30 Yi Zhou
Department of Mechanical Science and Engineering, Nagoya University
Small-scale behavior in developing grid-generated turbulence

9h55 Immanuvel Paul
Department of Aeronautics, Imperial College London, UK
Spatial evolution of velocity gradient statistics from the production to the decay regions of grid turbulence.

10h20 Gerrit Elsinga
Laboratory for Aero & Hydrodynamics, Delft University of Technology, The Netherlands
The anisotropic structure of turbulence and its energy spectrum

10h45 – 11h05 Coffee break

11h05 - 12h40 Session 10 -

Chairman :

11h05 William George
Imperial College London, UK.
Two-time and two-spatial-point similarity solutions in turbulence

11h40 Bernard Geurts
University of Twente, The Netherlands
Modulation of heat and mass transfer in turbulent flow

12h15 Stephane Perrard
James Franck Institute, University of Chicago, USA
Measurement of self-similar decay of turbulence in a box

13h00 - 14h30 Lunch

14h30 - 15h55 Session 11 -

Chairman :

14h30 José Cardesa Dueñas
Universidad Politecnica de Madrid, Spain
The temporal evolution of the energy flux across scales in homogeneous turbulence

14h55 Antoine Llor
CEA, France
Slow transients or multiple self-similar regimes ? A tentative approach on homogeneous isotropic turbulence

15h20 Susumu Goto
Osaka University, Japan
Physical mechanism of energy cascade and non-equilibrium statistics in developed turbulence

15h55 Christos Vassilicos
Imperial College London, UK.
Non-equilibrium turbulence

16h30 – 17h30 Visit of the wind tunnel